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Summary

The presented invention refers to DNA sequences from Zea mays (maize), Solanum tuberosum (potato) and Spinacia oleracea (spinach), which contain the coding region of a glucose-translocator whose introduction into a plant genome changes the development and allocation of carbon molecules in transgenic plants, as well as plasmids, yeasts, bacteria, and transgenic plants, and the introduction of these DNA sequences to change the activity of glucose translocation and the consequent effect on carbon partitioning. Furthermore, the invention affects the use of the described sequences of the glucose-translocators to identify translocators from other plants (angiosperms, gymnosperms, and algae) through hybridization with low stringency or through PCR techniques, as well as the utilization of the glucosetranslocator as a target for herbicides.